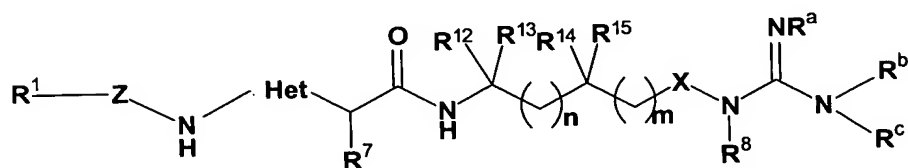


This listing of claims will replace all prior versions, and listings, of claims in the application.

## II. Listing of Claims:

1-92. Canceled

93. (Previously presented) A diagnostic composition useful for *in vivo* imaging of thrombi in a mammal comprising a compound having Formula VII:



**Formula VII**

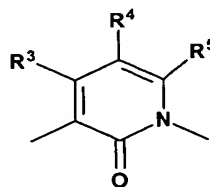
or a solvate, hydrate or pharmaceutically acceptable salt thereof; wherein:

R<sup>1</sup> is alkyl, cycloalkyl, cycloalkylalkyl, alkenyl, alkynyl, aryl, aralkyl, heterocycle or heterocycloalkyl, any of which may be optionally substituted;

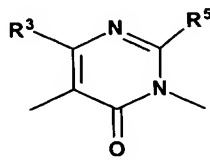
Z is -SO<sub>2</sub>-, -OCO-, -CO-, -NR<sup>2</sup>CO- or a covalent bond,

where R<sup>2</sup> is hydrogen, alkyl, aralkyl, aryl, hydroxy(C<sub>2-10</sub>)alkyl, amino(C<sub>2-10</sub>)alkyl, monoalkylamino(C<sub>2-10</sub>)alkyl, dialkylamino(C<sub>2-10</sub>)alkyl or carboxyalkyl;

Het is selected from the group consisting of

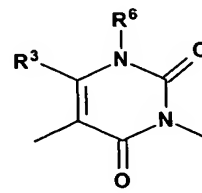


**A**



**B**

, and



**C**

where

R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> are independently hydrogen, alkyl, cycloalkyl, alkenyl, alkynyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heteroaryl, trifluoromethyl, halogen, hydroxyalkyl, cyano, nitro,

carboxamido, alkoxycarbonylmethyl, carboxymethyl,  $-\text{CO}_2\text{R}^x$ ,  $-\text{CH}_2\text{OR}^x$  or  $-\text{OR}^x$ ,

where  $\text{R}^x$ , in each instance, is independently one of hydrogen, alkyl or cycloalkyl wherein said alkyl or cycloalkyl groups may optionally have one or more unsaturations;

$\text{R}^6$  is hydrogen, alkyl, aralkyl, aryl, cyano( $\text{C}_{2-10}$ )alkyl, hydroxy( $\text{C}_{2-10}$ )alkyl, alkoxy( $\text{C}_{2-10}$ )alkyl, mono- and di-alkylamino( $\text{C}_{2-10}$ )alkyl, or carboxyalkyl;

$\text{R}^7$  is hydrogen,  $\text{C}_{1-4}$ alkyl, or  $\text{C}_{2-4}$  alkenyl;

$\text{R}^8$  is hydrogen, alkyl, alkenyl, aralkyl, aryl, hydroxyalkyl, aminoalkyl, monoalkylamino ( $\text{C}_{2-10}$ )alkyl, dialkylamino( $\text{C}_{2-10}$ )alkyl or carboxyalkyl;

$\text{R}^{12}$ ,  $\text{R}^{13}$ ,  $\text{R}^{14}$  and  $\text{R}^{15}$  are independently hydrogen, alkyl, aralkyl, aryl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl or carboxyalkyl;

or  $\text{R}^{12}$  and  $\text{R}^{13}$  are taken together to form  $-(\text{CH}_2)_y-$ , where y is 2 to 7, while  $\text{R}^{14}$  and  $\text{R}^{15}$  are defined as above;

or  $\text{R}^{14}$  and  $\text{R}^{15}$  are taken together to form  $-(\text{CH}_2)_q-$ , where q is 2 to 7, while  $\text{R}^{12}$  and  $\text{R}^{13}$  are defined as above;

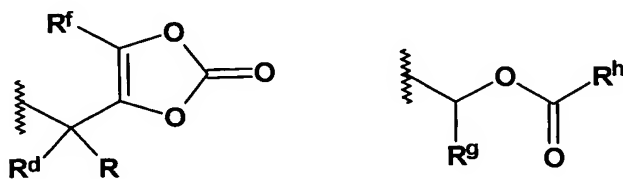
or  $\text{R}^{12}$  and  $\text{R}^{14}$  are taken together to form  $-(\text{CH}_2)_r-$ , where r is 0 (a bond) or 1 to 7, while  $\text{R}^{13}$  and  $\text{R}^{15}$  are defined as above;

X is oxygen or  $\text{NR}^9$ ,

where  $\text{R}^9$  is hydrogen, alkyl, cycloalkyl or aryl, wherein said alkyl, cycloalkyl or aryl can be optionally substituted with amino, monoalkylamino, dialkylamino, alkoxy, hydroxy, carboxy, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, aryl, heteroaryl, acylamino, cyano or trifluoromethyl;

$\text{R}^a$ ,  $\text{R}^b$  and  $\text{R}^c$  are independently hydrogen, alkyl, hydroxy, alkoxy, aryloxy, aralkoxy, alkoxycarbonyloxy, cyano or  $-\text{CO}_2\text{R}^w$ , where

$\text{R}^w$  is alkyl, cycloalkyl, phenyl, benzyl,



or

where  $R^d$  and  $R^e$  are independently hydrogen,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl or phenyl,  $R^f$  is hydrogen,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl or phenyl,  $R^g$  is hydrogen,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl or phenyl, and  $R^h$  is aralkyl or  $C_{1-6}$  alkyl;

n is from zero to 8; m is from zero to 6; and

wherein said compound is capable of being detected outside the body;

and a pharmaceutically acceptable carrier or diluent.

94. (Previously presented) The composition of claim 93, wherein said compound is detectably labeled.

95. (Previously presented) The composition of claim 94, wherein said compound is detectably labeled with a radioactive atom or a paramagnetic atom.

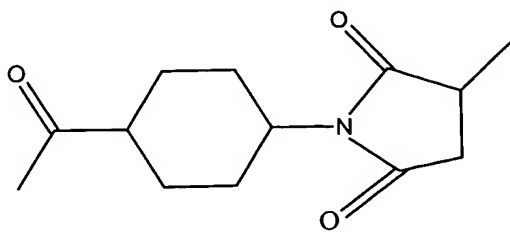
96. (Previously presented) The composition of claim 94, wherein the  $R^1$  group of said compound is substituted with a radioactive iodine atom selected from the group consisting of I-125, I-131 and I-123.

97. (Currently amended) The composition of claim 94, wherein said detectable label ~~consists of~~ comprises:

(a) an organic group L that is attached to the  $R^1$  substituent of said compound, either directly or via a divalent linking group A", wherein L is an organic group capable of covalently bonding to or noncovalently binding to either a radioactive or paramagnetic atom; and A" is a group capable of covalently bonding with said organic group L; and

(b) a radioactive or paramagnetic atom.

98. (Previously presented) The composition of claim 97, wherein A" is  $-C(=S)-$ ,  $-C(=O)-$ ,  $-C(=NH)-(CH_2)_6-C(=NH)-$ ,



or  $-\text{C}(=\text{O})-(\text{CH}_2)_6-\text{C}(=\text{O})-$ .

99. (Previously presented) The composition of claim 97, wherein L contains 3 to 12 methylene phosphonic acid groups, methylene carbohydroxamic acid groups, carboxyethylidene groups or carboxymethylene groups, which are bonded to a nitrogen atom.

100. (Previously presented) The composition of claim 97, wherein L is diethylenetriamine-N, N, N', N'', N''-pentaacetic acid (DTPA) or 1-(p-aminobenzyl)-diethylenetriaminepentaacetic acid.

101. (Previously presented) The composition of claim 97, wherein said radioactive atom is selected from the group consisting of Co-57, Cu-67, Ga-67, Ga-68, Ru-97, Tc-99m, In-111, In-113m, Hg-197, Au-198, and Pb-203.

102. (Previously presented) The composition of claim 97, wherein said paramagnetic atom is a divalent or trivalent ion of an element with an atomic number of 21 to 29, 58 to 70, 42, or 44.

103. (Previously presented) The composition of claim 97, wherein said paramagnetic atom is selected from the group consisting of chromium (III), manganese(II), iron(III), iron(II), cobalt(II), nickel(II), copper(II), praseodymium(III), neodymium(III), samarium(III) and ytterbium(III).

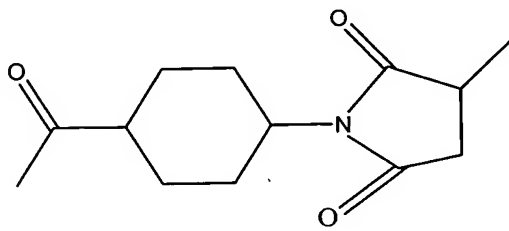
104. (Currently amended) The composition of claim 94, wherein said detectable label is a radioactive or paramagnetic chelate ~~consisting of~~ comprising:

(a) a group A"-L which substitutes for the groups -Z-R<sup>1</sup> in said compound, wherein

L is an organic group capable of covalently bonding to or noncovalently binding to either a radioactive or paramagnetic atom; and A" is a divalent linking group capable of covalently bonding with said organic group L; and

(b) a radioactive or paramagnetic atom.

105. (Previously presented) The composition of claim 104, wherein A" is -C(=S)-, -C(=O)-, -C(=NH)-(CH<sub>2</sub>)<sub>6</sub>-C(=NH)-,



or -C(=O)-(CH<sub>2</sub>)<sub>6</sub>-C(=O)-.

106. (Previously presented) The composition of claim 104, wherein L contains 3 to 12 methylene phosphonic acid groups, methylene carbohydroxamic acid groups, carboxyethylidene groups or carboxymethylene groups, which are bonded to a nitrogen atom.

107. (Previously presented) The composition of claim 104, wherein L is diethylenetriamine-N, N, N', N'', N''-pentaacetic acid (DTPA) or 1-(p-aminobenzyl)-diethylenetriaminepentaacetic acid.

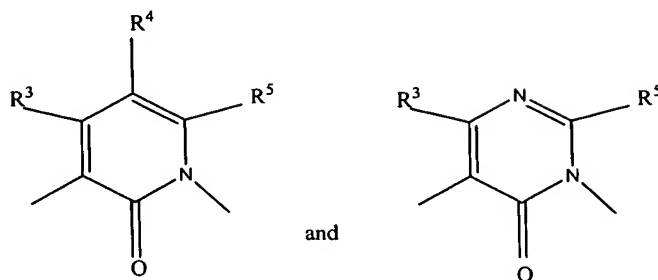
108. (Previously presented) The composition of claim 104, wherein said radioactive atom is selected from the group consisting of Co-57, Cu-67, Ga-67, Ga-68, Ru-97, Tc-99m, In-111, In-113m, Hg-197, Au-198, and Pb-203.

109. Canceled

110. (New) The composition of claim 93, wherein R<sup>1</sup> is C<sub>6-10</sub> ar(C<sub>1-4</sub>) alkyl, C<sub>6-10</sub> aryl, C<sub>4-7</sub> cycloalkyl(C<sub>1-4</sub>)alkyl, heterocycle or heterocyclo(C<sub>1-4</sub>)alkyl, any of which is optionally substituted; and wherein the heterocycle of said heterocycle or heterocyclo(C<sub>1-4</sub>)alkyl is a 5- to 7-member mono-cyclic, or 9- to 10-member bi-cyclic heterocyclic ring that is saturated or unsaturated, and contains 1 to 3 heteroatoms selected from N, O and S.

111. (New) The composition of claim 110, wherein R<sup>1</sup> is C<sub>6-10</sub> ar(C<sub>1-4</sub>) alkyl, C<sub>6-10</sub> aryl, C<sub>4-7</sub> cycloalkyl(C<sub>1-4</sub>)alkyl, any of which is optionally substituted by 1-5 of hydroxy, nitro, trifluoromethyl, halogen, C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl, C<sub>6-10</sub> aryl, C<sub>1-6</sub> alkoxy, C<sub>6-10</sub> ar(C<sub>1-6</sub>)alkoxy, C<sub>1-6</sub> aminoalkyl, C<sub>1-6</sub> aminoalkoxy, amino, mono(C<sub>1-4</sub>)alkylamino, di(C<sub>1-4</sub>)alkylamino, C<sub>2-6</sub> alkylcarbonylamino, C<sub>2-6</sub> alkoxycarbonylamino, C<sub>2-6</sub> alkoxycarbonyl, carboxy, C<sub>1-6</sub> hydroxyalkyl, C<sub>2-6</sub> hydroxyalkoxy, (C<sub>1-6</sub>)alkoxy(C<sub>2-6</sub>)alkoxy, mono- and di- C<sub>1-4</sub> alkylamino (C<sub>2-6</sub>)alkoxy, C<sub>2-10</sub> mono(carboxyalkyl)amino, bis(C<sub>2-10</sub> carboxyalkyl) amino, C<sub>6-14</sub> ar(C<sub>1-6</sub>) alkoxycarbonyl, C<sub>2-6</sub> alkynylcarbonyl, C<sub>1-6</sub> alkylsulfonyl, C<sub>2-6</sub> alkenylsulfonyl, C<sub>2-6</sub> alkynylsulfonyl, C<sub>6-10</sub> arylsulfonyl, C<sub>6-10</sub> ar(C<sub>1-6</sub>) alkylsulfonyl, C<sub>1-6</sub> alkylsulfinyl, C<sub>1-6</sub> alkylsulfonamido, C<sub>6-10</sub> arylsulfonamido, C<sub>6-10</sub> ar(C<sub>1-6</sub>) alkylsulfonamido, amidino, guanidino, C<sub>1-6</sub> alkyliminoamino, formyliminoamino, C<sub>2-6</sub> carboxyalkoxy, C<sub>2-6</sub> carboxyalkyl, carboxyalkylamino, cyano, trifluoromethoxy, or perfluoroethoxy.

112. (New) The composition of claim 93, wherein Het is selected from the group consisting of:



where  $R^3$ ,  $R^4$  and  $R^5$  are independently hydrogen,  $C_{1-4}$  alkyl,  $C_{3-7}$  cycloalkyl,  $C_{6-14}$  aryl,  $C_{6-10}$  ar( $C_{1-4}$ )alkyl, trifluoromethyl, cyano, halogen, hydroxyalkyl, cyano, nitro, carboxamido, carboxy, alkoxycarbonyl, carboxymethyl, alkoxycarbonylmethyl, alkoxy, hydroxy, or cycloalkyloxycarbonyl.

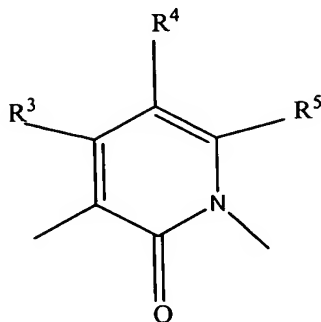
113. (New) The composition of claim 112, wherein  $R^3$ ,  $R^4$  and  $R^5$  are independently hydrogen, methyl, ethyl, propyl, chloro, bromo, trifluoromethyl, cyano, hydroxymethyl, methoxy, ethoxy, carboxamido, nitro, phenyl, cyclopropyl, hydroxy, isopropyl, methoxycarbonyl, ethoxycarbonyl and benzyl.

114. (New) The composition of claim 93, wherein  $R^3$  and  $R^4$  groups are independently hydrogen,  $C_{1-12}$  alkyl, or  $C_{2-6}$  alkenyl.

115. (New) The composition of claim 114, wherein  $R^3$  and  $R^4$  are hydrogen.

116. (New) The composition of claim 93, wherein  $R^5$  is hydrogen, halogen, cyano,  $C_{1-5}$  alkyl,  $C_{3-6}$  alkenyl,  $C_{3-5}$  cycloalkyl, trifluoromethyl, or  $C_{1-4}$  alkoxy.

117. (New) The composition of claim 93, wherein Het is:



wherein

$R^3$  and  $R^4$  are independently selected to be hydrogen or methyl, and

$R^5$  is selected from the group consisting of hydrogen, methyl, ethyl, propenyl, allyl, propyl, isopropyl, butyl, R-sec-butyl, S-sec-butyl, isobutyl, 1-pentyl, R-2-pentyl, S-2-pentyl, 3-pentyl, S-1-(2-methyl)-butyl, R-2-(3-methyl)-butyl, 1-(3-methyl)-butyl, R-1-(2-methyl)-butyl, cyclopentyl, 2-pyrrolyl, 3-pyrrolyl, 1-hexyl, S-2-hexyl, R-2-hexyl, R-3-hexyl, and S-3-hexyl.

118. (New) The composition of claim 117, wherein  $R^5$  is hydrogen, methyl, ethyl, propyl or isopropyl.

119. (New) The composition of claim 93, wherein Z is  $-SO_2-$  or a covalent bond.

120. (New) The composition of claim 93, wherein  $R^7$  is hydrogen.

121. (New) The composition of claim 93, wherein X is oxygen.

122. (New) The composition of claim 93, wherein X is  $NR^9$ .

123. (New) The composition of claim 93, wherein  $R^9$  is hydrogen or  $C_{1-6}$  alkyl, optionally substituted by one, two or three, of amino, monoalkylamino, dialkylamino,



alkoxy, hydroxy, alkoxycarbonyl, aryloxy, carbonyl, aralkoxycarbonyl, carboalkoxy, phenyl, cyano, trifluoromethyl, acetylamino, pyridyl, thiophenyl, furyl, pyrrolyl or imidazolyl.

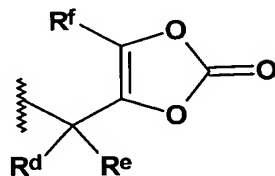
124. (New) The composition of claim 93, wherein  $R^9$  is hydrogen, methyl, ethyl, propyl, *n*-butyl, benzyl, phenethyl, 2-hydroxyethyl, 3-hydroxypropyl, 4-hydroxybutyl, carboxymethyl or carboxyethyl.

125. (New) The composition of claim 93, wherein  $R^8$  is hydrogen,  $C_{1-6}$  alkyl or  $C_{6-10}$  aryl ( $C_{1-6}$ )alkyl.

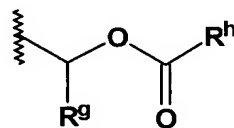
126. (New) The composition of claim 93, wherein  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$  and  $R^{15}$  are independently one of hydrogen,  $C_{1-6}$  alkyl,  $C_{6-10}$  ar( $C_{1-6}$ )alkyl,  $C_{6-10}$  aryl,  $C_{2-10}$  hydroxyalkyl or  $C_{2-7}$  carboxyalkyl.

127. (New) The composition of claim 126, wherein  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$  and  $R^{15}$  are independently hydrogen, methyl, ethyl, propyl, *n*-butyl, benzyl, phenylethyl, 2-hydroxyethyl, 3-hydroxypropyl, 4-hydroxybutyl, 2-carboxymethyl, 3-carboxyethyl and 4-carboxypropyl.

128. (New) The composition of claim 93, wherein  $R^a$ ,  $R^b$  and  $R^c$  are independently hydrogen, hydroxy,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, cyano or  $-CO_2R^w$ , where  $R^w$ , in each instance, is one of  $C_{1-4}$ alkyl,  $C_{4-7}$ cycloalkyl, benzyl,



or



where  $R^d$ ,  $R^e$  and  $R^f$  are hydrogen,  
 $R^f$  is methyl, and  
 $R^h$  is benzyl or *tert*-butyl.

129. (New) The composition of claim 128, wherein

$R^a$ ,  $R^b$  and  $R^c$  are hydrogen, methyl, ethyl, propyl, *n*-butyl, hydroxy, methoxy, ethoxy, cyano,  $-\text{CO}_2\text{CH}_3$ ,  $-\text{CO}_2\text{CH}_2\text{CH}_3$  and  $-\text{CO}_2\text{CH}_2\text{CH}_2\text{CH}_3$ .

130. (New) The composition of claim 129, wherein  $R^a$ ,  $R^b$  and  $R^c$  are each hydrogen.

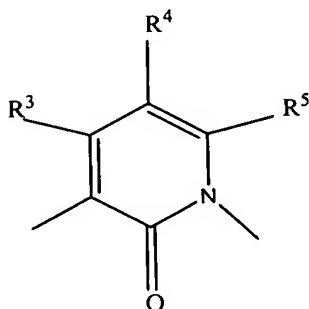
131. (New) The composition of claim 93, wherein *n* is zero to 6, and *m* is zero to 4.

132. (New) The composition of claim 131, wherein *n* is zero to 4 and *m* is zero, 1 or 2.

133. (New) The composition of claim 93, wherein:

$R^1$  is  $\text{C}_{6-10}$  ar( $\text{C}_{1-4}$ ) alkyl,  $\text{C}_{6-10}$  aryl,  $\text{C}_{4-7}$  cycloalkyl( $\text{C}_{1-4}$ )alkyl, any of which is optionally substituted by 1-5 of hydroxy, nitro, trifluoromethyl, halogen,  $\text{C}_{1-6}$  alkyl,  $\text{C}_{6-10}$  aryl,  $\text{C}_{1-6}$  alkoxy,  $\text{C}_{6-10}$  ar( $\text{C}_{1-6}$ )alkoxy,  $\text{C}_{1-6}$  aminoalkyl,  $\text{C}_{1-6}$  aminoalkoxy, amino, mono( $\text{C}_{1-4}$ )alkylamino, di( $\text{C}_{1-4}$ )alkylamino,  $\text{C}_{2-6}$  alkoxycarbonylamino,  $\text{C}_{2-6}$  alkoxycarbonyl, carboxy,  $\text{C}_{1-6}$  hydroxyalkyl,  $\text{C}_{2-6}$  hydroxyalkoxy, ( $\text{C}_{1-6}$ )alkoxy( $\text{C}_{2-6}$ )alkoxy, mono- and di- $\text{C}_{1-4}$  alkylamino ( $\text{C}_{2-6}$ )alkoxy,  $\text{C}_{2-10}$  mono(carboxyalkyl)amino, bis( $\text{C}_{2-10}$  carboxyalkyl) amino,  $\text{C}_{6-14}$  ar( $\text{C}_{1-6}$ ) alkoxycarbonyl,  $\text{C}_{2-6}$  alkynylcarbonyl,  $\text{C}_{1-6}$  alkylsulfonyl,  $\text{C}_{2-6}$  alkenylsulfonyl,  $\text{C}_{2-6}$  alkynylsulfonyl,  $\text{C}_{6-10}$  arylsulfonyl,  $\text{C}_{6-10}$  ar( $\text{C}_{1-6}$ ) alkylsulfonyl,  $\text{C}_{1-6}$  alkylsulfinyl,  $\text{C}_{1-6}$  alkylsulfonamido,  $\text{C}_{6-10}$  arylsulfonamido,  $\text{C}_{6-10}$  ar( $\text{C}_{1-6}$ ) alkylsulfonamido, amidino, guanidino,  $\text{C}_{1-6}$  alkyliminoamino, formyliminoamino,  $\text{C}_{2-6}$  carboxyalkoxy,  $\text{C}_{2-6}$  carboxyalkyl, carboxyalkylamino, cyano, trifluoromethoxy, or perfluoroethoxy;

Het is:



wherein

$R^3$  and  $R^4$  are independently selected to be hydrogen or methyl, and

$R^5$  is selected from the group consisting of hydrogen, methyl, ethyl, propenyl, allyl, propyl, isopropyl, butyl, R-sec-butyl, S-sec-butyl, isobutyl, 1-pentyl, R-2-pentyl, S-2-pentyl, 3-pentyl, S-1-(2-methyl)-butyl, R-2-(3-methyl)-butyl, 1-(3-methyl)-butyl, R-1-(2-methyl)-butyl, cyclopentyl, 2-pyrrolyl, 3-pyrrolyl, 1-hexyl, S-2-hexyl, R-2-hexyl, R-3-hexyl, and S-3-hexyl;

Z is  $-\text{SO}_2-$  or a covalent bond;

$R^{12}$ ,  $R^{13}$ ,  $R^{14}$  and  $R^{15}$  are independently one of hydrogen,  $\text{C}_{1-6}$  alkyl,  $\text{C}_{6-10}$  aryl,  $\text{C}_{2-10}$  hydroxyalkyl or  $\text{C}_{2-7}$  carboxyalkyl;

X is oxygen;

$R^8$  is hydrogen,  $\text{C}_{1-4}$  alkyl or  $\text{C}_{6-10}$  aryl ( $\text{C}_{1-6}$ )alkyl;

$R^a$ ,  $R^b$  and  $R^c$  are hydrogen, methyl, ethyl, propyl, *n*-butyl, hydroxy, methoxy, ethoxy, cyano,  $-\text{CO}_2\text{CH}_3$ ,  $-\text{CO}_2\text{CH}_2\text{CH}_3$  and  $-\text{CO}_2\text{CH}_2\text{CH}_2\text{CH}_3$ ;

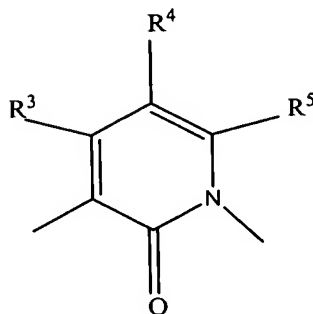
*n* is zero to 6, and *m* is zero to 4.

134. (New) The composition of claim 93, wherein

Z is  $-\text{SO}_2-$ ,

$R^1$  is substituted or unsubstituted aryl or aralkyl,

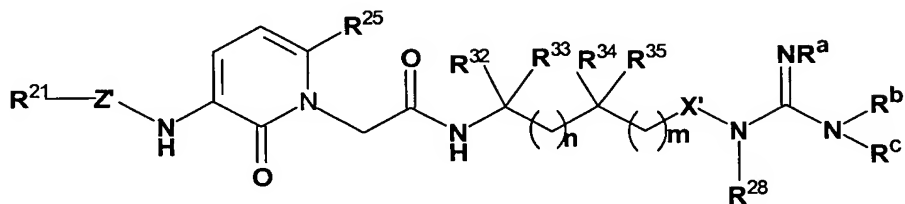
Het is



X is O, R<sup>8</sup> is hydrogen, C<sub>1-4</sub> alkyl or C<sub>6-10</sub> aryl(C<sub>1-6</sub>)alkyl, and R<sup>a</sup>, R<sup>b</sup> and R<sup>c</sup> are all hydrogen.

135. (New) The composition of claim 134, wherein R<sup>1</sup> is substituted or unsubstituted benzyl or phenyl.

136. (New) A diagnostic composition useful for *in vivo* imaging of thrombi in a mammal comprising a compound having Formula VIII:



Formula VIII

or a solvate, hydrate of pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier or diluent; wherein

Z' is -OCO-, -CO-, -SO<sub>2</sub>-, -NHCO-, or a covalent bond;

R<sup>21</sup> is:

R<sup>22</sup>(CH<sub>2</sub>)<sub>k</sub>, where k is 0-4, (R<sup>22</sup>)(OR<sup>22</sup>)CH(CH<sub>2</sub>)<sub>p</sub>, where p is 1-4,

(R<sup>22</sup>)<sub>2</sub>CH(CH<sub>2</sub>)<sub>k</sub>, where k is 0-4 and R<sup>22</sup> can be the same or different, and

wherein (R<sup>22</sup>)<sub>2</sub> can also be a ring substituent on CH represented by C<sub>3-7</sub> cycloalkyl, C<sub>7-12</sub> bicyclic alkyl, or a 5- to 7- membered mono- or 9- to 10-membered bicyclic heterocyclic

ring which can be saturated or unsaturated, and which contains from one to three heteroatoms selected from the group consisting of N, O and S, and

$R^{22}O(CH_2)_p$ , wherein p is 1-4;

$R^{22}$  is hydrogen; phenyl, unsubstituted or substituted with one or more of  $C_{1-4}$  alkyl,  $C_{1-4}$  alkoxy, halogen, trifluoromethyl, hydroxy, COOH, or CONH<sub>2</sub>; naphthyl; biphenyl; a 5- to 7- membered mono- or a 9- to 10-membered bicyclic heterocyclic ring which can be saturated or unsaturated, and which contains from one to three heteroatoms selected from the group consisting of N, O and S;  $C_{1-4}$  alkyl;  $C_{3-7}$  cycloalkyl, or  $C_{7-12}$  bicyclic alkyl;

$R^{25}$  is hydrogen;  $C_{1-4}$  alkyl;  $C_{3-7}$  cycloalkyl, or trifluoromethyl;

$R^a$ ,  $R^b$  and  $R^c$  are independently hydrogen, hydroxy, or cyano;

$R^{32}$ ,  $R^{33}$ ,  $R^{34}$  and  $R^{35}$  are independently one of hydrogen,  $C_{1-6}$  alkyl,  $C_{2-10}$  carboxyalkyl or  $C_{2-10}$  hydroxyalkyl, or  $R^{32}$  and  $R^{33}$  are taken together to form  $-(CH_2)_y-$ , where y is 2 to 5, while  $R^{34}$  and  $R^{35}$  are defined as above; or  $R^{34}$  and  $R^{35}$  are taken together to form  $-(CH_2)_q-$ , where q is 2 to 5, while  $R^{32}$  and  $R^{33}$  are defined as above; or  $R^{32}$  and  $R^{34}$  are taken together to form  $-(CH_2)_r-$ , where r is 0 (a bond) or 1-4, while  $R^{33}$  and  $R^{35}$  are defined as above;

$R^{28}$  is hydrogen,  $C_{1-4}$  alkyl or  $C_{6-10}$  aryl ( $C_{1-4}$ )alkyl

X' is O;

n is from zero to 4;

m is zero to 2, and

wherein said compound is capable of being detected outside the body;

and a pharmaceutically acceptable carrier or diluent.

137. (New) The composition of claim 136, wherein Z' is a covalent bond or  $-SO_2-$ .

138. (New) The composition of claim 136, wherein  $R^{21}$  is  $R^{22}(CH_2)_k$ ,  $(R^{22})_2CH(CH_2)_k$ , phenyl, or (phenyl)<sub>2</sub>-CH.

139. (New) The composition of claim 136, wherein  $R^{25}$  is  $C_{1-4}$  alkyl

140. (New) The composition of claim 139, wherein R<sup>25</sup> is methyl.
141. (New) The composition of claim 136, wherein R<sup>28</sup> is hydrogen, C<sub>1-4</sub> alkyl, or benzyl.
142. (New) The composition of claim 93, wherein  
R<sup>1</sup> is phenyl, benzyl, 1-naphthylmethyl, 2-naphthylmethyl, pyridyl, pyridylmethyl, quinolinyl or quinolinylmethyl, any of which is optionally substituted by 1-5 of chloro, methoxy, methyl, trifluoromethyl, cyano, nitro, methylsulfonyl, amino or dimethylamino.
143. (New) The composition of claim 93, wherein said compound is:  
R<sup>1</sup> is 8-quinolinyl, 5-methyl-8-quinolinyl, 8-quinolinylmethyl, 5-methyl-8-quinolinylmethyl, 4-benzo-2,1,3-thiadiazolyl, 5-chloro-2-thiophenyl, 5-chloro-1,3-dimethyl-4-pyrazolyl, pyridyl, isoquinolinyl, pyridylmethyl, isoquinolinylmethyl, tetrahydroquinolinyl and tetrahydroquinolinylmethyl.
144. (New) The composition of claim 93, wherein m and n are each zero and R<sup>12</sup>, R<sup>13</sup>, R<sup>14</sup> and R<sup>15</sup> are each hydrogen.
145. (New) The composition of claim 93, which is one of:  
3-benzylsulfonylamino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3-methylphenylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-benzylsulfonylamino-6-methyl-1-[(1-(1-guanidinooxymethyl)cyclopropyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3-chlorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(2-iodobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(2-chlorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(2-bromobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(3-fluorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(4-chlorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(2-chloro-6-fluorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(2-fluorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(4-fluorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(2,3-dichlorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(3,4-difluorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(2,4-dichlorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(2,5-dichlorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(3,4-dichlorobenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(1-naphthalenylmethylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(2-methylbenzylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

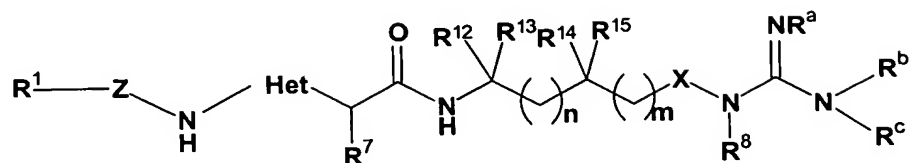
3-phenylsulfonylamino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;

3-(3-chlorophenylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(4-methoxyphenylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3,4-dichlorophenylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3-bromophenylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3,4-dichlorophenylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(4-methylphenylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(4-ethylphenylsulfonyl)amino-6-methyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3-methylphenylsulfonyl)amino-6-isopropyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3-methylphenylsulfonyl)amino-6-ethyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3-methylphenylsulfonyl)amino-6-propyl-1-[(2-guanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3-methylphenylsulfonyl)amino-6-methyl-1-[(2-N"-methylguanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3-methylphenylsulfonyl)amino-6-methyl-1-[2-N"-butylguanidinooxyethyl)aminocarbonylmethyl]-2-pyridinone;  
3-(3-methylphenylsulfonyl)amino-6-methyl-1-{[2-N"-(3-phenylpropyl)guanidinooxyethyl]aminocarbonylmethyl}-2-pyridinone;  
or a solvate, hydrate, or pharmaceutically acceptable salt thereof.

146. (New) A method for *in vivo* imaging of a thrombus in a mammal, comprising:

(a) administering to said mammal a diagnostically-effective amount of a composition comprising a compound having Formula *VII*:



**Formula VII**

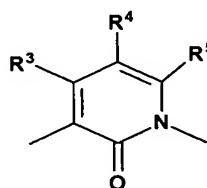
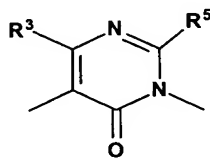
or a solvate, hydrate or pharmaceutically acceptable salt thereof; wherein:

R<sup>1</sup> is alkyl, cycloalkyl, cycloalkylalkyl, alkenyl, alkynyl, aryl, aralkyl, heterocycle or heterocycloalkyl, any of which may be optionally substituted;

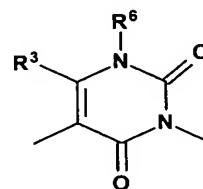
Z is  $\text{--SO}_2\text{--}$ ,  $\text{--OCO--}$ ,  $\text{--CO--}$ ,  $\text{--NR}^2\text{CO--}$  or a covalent bond,

where R<sup>2</sup> is hydrogen, alkyl, aralkyl, aryl, hydroxy(C<sub>2-10</sub>)alkyl, amino(C<sub>2-10</sub>)alkyl, monoalkylamino(C<sub>2-10</sub>)alkyl, dialkylamino(C<sub>2-10</sub>)alkyl or carboxyalkyl;

Het is selected from the group consisting of

**A****B**

, and

**C**

where

R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> are independently hydrogen, alkyl, cycloalkyl, alkenyl, alkynyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heteroaryl, trifluoromethyl, halogen, hydroxyalkyl, cyano, nitro, carboxamido, alkoxy carbonylmethyl, carboxymethyl,  $\text{--CO}_2\text{R}^x$ ,  $\text{--CH}_2\text{OR}^x$  or  $\text{--OR}^x$ ,

where R<sup>x</sup>, in each instance, is independently one of hydrogen, alkyl or cycloalkyl wherein said alkyl or cycloalkyl groups may optionally have one or more unsaturations;

R<sup>6</sup> is hydrogen, alkyl, aralkyl, aryl, cyano(C<sub>2-10</sub>)alkyl, hydroxy(C<sub>2-10</sub>)alkyl, alkoxy(C<sub>2-10</sub>)alkyl, mono- and di-alkylamino(C<sub>2-10</sub>)alkyl, or carboxyalkyl;

R<sup>7</sup> is hydrogen, C<sub>1-4</sub>alkyl, or C<sub>2-4</sub> alkenyl;

$R^8$  is hydrogen, alkyl, alkenyl, aralkyl, aryl, hydroxyalkyl, aminoalkyl, monoalkylamino (C<sub>2-10</sub>)alkyl, dialkylamino(C<sub>2-10</sub>)alkyl or carboxyalkyl;

$R^{12}$ ,  $R^{13}$ ,  $R^{14}$  and  $R^{15}$  are independently hydrogen, alkyl, aralkyl, aryl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl or carboxyalkyl;

or  $R^{12}$  and  $R^{13}$  are taken together to form  $-(CH_2)_y-$ , where y is 2 to 7, while  $R^{14}$  and  $R^{15}$  are defined as above;

or  $R^{14}$  and  $R^{15}$  are taken together to form  $-(CH_2)_q-$ , where q is 2 to 7, while  $R^{12}$  and  $R^{13}$  are defined as above;

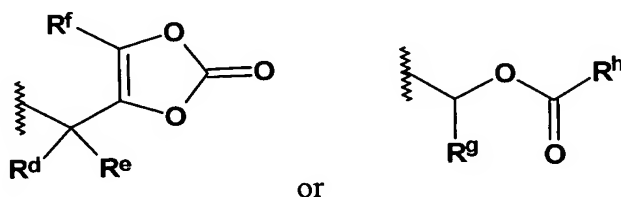
or  $R^{12}$  and  $R^{14}$  are taken together to form  $-(CH_2)_r-$ , where r is 0 (a bond) or 1 to 7, while  $R^{13}$  and  $R^{15}$  are defined as above;

X is oxygen or  $NR^9$ ,

where  $R^9$  is hydrogen, alkyl, cycloalkyl or aryl, wherein said alkyl, cycloalkyl or aryl can be optionally substituted with amino, monoalkylamino, dialkylamino, alkoxy, hydroxy, carboxy, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, aryl, heteroaryl, acylamino, cyano or trifluoromethyl;

$R^a$ ,  $R^b$  and  $R^c$  are independently hydrogen, alkyl, hydroxy, alkoxy, aryloxy, aralkoxy, alkoxycarbonyloxy, cyano or  $-CO_2R^w$ , where

$R^w$  is alkyl, cycloalkyl, phenyl, benzyl,



where  $R^d$  and  $R^e$  are independently hydrogen, C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl or phenyl,  $R^f$  is hydrogen, C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl or phenyl,  $R^g$  is hydrogen, C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl or phenyl, and  $R^h$  is aralkyl or C<sub>1-6</sub> alkyl;

n is from zero to 8; m is from zero to 6; and

wherein said compound is capable of being detected outside the body;

**DOCKET NO.:** 3DP-0542

**PATENT**

**Application N .:** To be assigned

**Preliminary Amendment - First Action Not Yet Received**

and a pharmaceutically acceptable carrier or diluent; and

(b) detecting said thrombus.